DOCUMENT RESUME

ED 247 845 HE 017 529

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TITLE Postsecondary "High Tech" Training for Women on Welfare: Correlates of Program Completion.
SPONS AGENCY Employment and Training Administration (DOL), Washington, D.C. Office of Policy, Evaluation and Research.
PUB DATE Apr 84
CONTRACT DOL-20-11-82-03
GRANT DOL-51-11-78-03
NOTE 34p.; Paper presented at the Annual Meeting of the American Educational Research Association (68th, New Orleans, LA, April 23-27, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Persistence; Adult Students; College Students; Comparative Analysis; *Dropout Research; Family Life; Females; Job Training; *Low Income Groups; Minority Groups; Models; *Nontraditional Students; Postsecondary Education; Research Methodology; School Holding Power; Student Adjustment; *Student Attrition; Student Characteristics; *Welfare Recipients
IDENTIFIERS *Work Incentive Program

ABSTRACT

Conceptual models developed from dropout research on traditional, residential college students were applied to the study of nontraditional students (older, mostly minority women on welfare) enrolled in a postsecondary, nondegree program (the federal Work Incentive Program). Factors that differentiate persisters from those who withdraw were examined, based on findings of previous research on college dropouts and undergraduate career socialization. Comparisons were made of dropouts and program graduates on background and individual characteristics, pretraining experiences, commitments, social and academic integration, and outside integration (e.g., effect on children). The findings suggest that the models derived from research on traditional students can be appropriate for the study of this nontraditional group. Program completion is linked to students' goal commitments and their integration into both the academic and nonacademic sectors of postsecondary educational institutions. The importance of being alert to the possibility that educational institutions are not encapsulated environments is also suggested by the findings that intrapersonal and extra-institutional integration are related to program completion. (SW)

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Postsecondary "High Tech" Training for Women on Welfare: Correlates of Program Completion

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Paper presented at the 1984 Annual Meeting of the American Educational Research Association, New Orleans, Louisiana. Data collection and analysis for this study were funded by Grant No. 51-11-78-03 and Contract No. 20-11-82-03 from the U. S. Department of Labor, Employment and Training Administration, Office of Policy, Evaluation, and Research. Researchers undertaking such projects under government sponsorship are encouraged to express freely their professional judgement. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

HE017529

POSTSECONDARY "HIGH TECH" TRAINING FOR WOMEN ON WELFARE:

CORRELATES OF PROGRAM COMPLETION

ABSTRACT

This study explores the appropriateness of conceptual models developed from research on dropout among traditional, residential, 18 to 22 year-old college students for understanding dropout among a particular non-traditional, commuter student group (older, mostly minority women on welfare) enrolled in a post-secondary, non-degree vocational training program. It examines the extent to which variables selected from assessments of the literature on dropout from higher education (Tinto, 1975; Pantages and Creedon, 1978) as well as from research on undergraduate career socialization, more generally (Weidman, in press), differentiate those women who complete the training from those who drop out. It is part of a larger evaluation of a high quality, demonstration training program for women in the Work Incentive (WIN) Program that was funded by the U. S. Department of Labor (White, et al., 1983).

The findings from the present research suggest that conceptual models developed from literature on traditional, residential college students can be appropriate for the study of non-traditional, commuter postsecondary students. They highlight the importance for program completion of students' goal commitments and their integration into both the academic and non-academic sectors of postsecondary educational institutions. The importance of being alert to the possibility that educational institutions are not encapsulated environments is also suggested by the findings that intra-personal and extra-institutional integration are related to program completion.

POSTSECONDARY "HIGH TECH" TRAINING FOR WOMEN ON WELFARE:

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This study explores the appropriateness of conceptual models developed from research on dropout among traditional, residential, 18 to 22 year-old college students for understanding dropout among a particular non-traditional, commuter student group (older, mostly minority women on welfare) enrolled in a post-secondary, non-degree vocational training program. It examines the extent to which variables selected from assessments of the literature on dropout from higher education (Tinto, 1975; Pantages and Creedon, 1978) as well as from research on undergraduate career socialization, more generally (Weidman, in press), differentiate those women who complete the training from those who drop out. It is part of a larger evaluation of a high quality, demonstration training program for women in the Work Incentive (WIN) Program that was funded by the U. S. Department of Labor (White, et al., 1983).

The Demonstration Training Program

The basic goal of the high quality training demonstration project was to determine if a large training investment for a small segment of the welfare population enrolled in the the WIN Program could result in access to well-paying and stable jobs for the women able to undertake such training.

The following is a general description of the WIN Program as it was operating when the high quality training demonstration program was implemented in May of 1978:

> The Work Incentive (WIN) Program, authorized by amendments to Title IV of the Social Security Act, is designed to help employable welfare recipients find jobs and

thereby achieve economic independence. The program is jointly operated by the Departments of Labor and Health, Educationa, and Welfare.

All applicants for and recipients of Aid to Families with Dependent Children (AFDC) who are 16 years of age or older are required to register for WIN as a condition of eligibility for AFDC, unless legally exempt by reason of health, incapacity, home responsibility, advanced age, student status, or geographic location. WIN registrants who need no social services or have been provided with needed services are required to accept appropriate employment or preparation for employment, when offered, as a condition of continued AFDC eligibility (U. S. Department of Labor, 1977, p. 58).

AFDC recipients who would otherwise be legally exempt from WIN registration (e.g., welfare mothers with children under six who want work or training) may also participate voluntarily. In fact, during fiscal year 1976, twenty percent of all WIN registrants were voluntary. The WIN Program is "the only employment and training program that serves welfare recipients exclusively" (U. S. Department of Labor, 1977, pp. 57-58).

Under the regular WIN program, the proportion of clients who gained a firm foothold in the labor market and earned enough to forego participation in publicly funded programs available for low-income populations was generally low. The high quality program was not conceived as a training prototype for all WIN clients; rather it was seen as a useful option for qualified welfare recipients who were believed to constitute a not insignificant

proportion of the total welfare population. The development of estimates of the proportion of such eligibles was one of the program evaluation sub-goals, as was obtaining information about optimal program structure, screening procedures, and support services that might be implemented in future replications.

The training programs selected for this demonstration were chosen to meet the following criteria: offering training for high-demand and high-wage occupations; located in a reputable private institution with a proven placement record and experience in educating disadvantaged students; and offering remedial classes, if needed. The two institutions selected were the DeVry Institute of Technology in Chicago and the Ohio Institute of Technology in Columbus. Both institutions are part of the Bell & Howell Education Group (a subsidiary of the Bell & Howell Corporation) and offer two-year, non-degree programs for electronic technicians in addition to other electronics programs leading to associate as well as baccalaureate degrees.

The training curriculum was a five-trimester program extending over 20 months. It included basic course work in mathematics and electronics-related subjects, with heavy emphasis on laboratory practice. A remedial program in arithmetic, basic science and English was required of students judged to be inadequately prepared on the basis of their entrance examination scores. This "Prep" course added one trimester to the regular five-trimester sequence.

The schools require high attendance and performance standards; failure to adhere to these standards results in probation and suspension. However, students can repeat failed courses twice

and be re-admitted after suspension. Faculty and the regular student body are predominantly male and white. The regular students are young (mostly between 18 and 21). In recent years, between 33 and 50 percent of students admitted to the program graduated.

Placement is a major strength of these schools. Students are given extensive preparation and counseling for the job search, and there is considerable on-campus recruitment by employers. In 1979, the schools recorded placement within 60 days of graduation for 96% of those students who sought assistance from the placement office. By 1982, as a result of the deteriorating labor market, this figure had declined to below 80%.

The WIN women who entered the program in 1978 differed from the regular students not only because they were female, older, more likely to be black, and single heads of households with young children, but also because their academic preparation was weaker. Since the goal of the program was to make the WIN clients fully competitive in the labor market, there was little modification of the basic technician program on their behalf. Additional services were provided, including tutoring and supplementary instruction, tours of work sites, and the hiring of a special counselor at each school to work exclusively with WIN students. These counselors were available throughout the life of the program to assist WIN students in overcoming academic and non-academic problems which might interfere with successful school completion and job placement.

The local WIN offices and the corresponding Separate Administrative Units (SAU's) also provided a variety of services (including special allowances and child care) for these students and devoted an exceptionally high level of more than the "usual"

attention and services to these WIN clients.

An experimental design for the evaluation of the demonstration program was implemented during the recruitment process (see White and Weidman, 1983, for a discussion of the problems encountered). Groups of clients who qualified for admission to the program were identified; half of them were randomly assigned to the program; eligible, unselected clients constituted the "control" or comparison group. The program was publicized in both cities and interested clients were interviewed and given the GATB test battery (U. S. Department of Labor, 1970). Those with scores above pre-established cut-off levels (either 90, or 80 for high school graduates) were referred to the schools where they were tested further in arithmetic and reading on tests routinely given to all applicants for the electronic technician training program. Those who were accepted by the schools constituted the eligible pool (n=313) from which the participants (n=137) were randomly selected, with the balance (n=176) constituting the comparison group of eligible, unselected WIN clients. Early attrition reduced the number of program participants to 133.

Because of differences in recruitment procedures used by the two participating WIN sites, the proportion of voluntary WIN clients was very high in Columbus (79%) and very low in Chicago (9%). The average age of all participants was 29. Most of the participants had one or two children; 40% had three or more. The majority of all participants were minority group members (in Chicago, 81% were black, 10 % were other ethnic minorities; in Columbus, 47% were black, 2% other minorities). For the total group, the mean number of school years completed was 11.5, and average scores on the three

GATB tests exceeded the norm of 100, with Columbus scores considerably higher than those in Chicago. Virtually all training participants had held a job at some point in their lives but at the time of program enrollent, 90% had been unemployed for more than six months.

In sum, this demonstration training program was designed to allow the study of a number of innovations in WIN-provided training, including: a) preparation for an occupation, electronic technician, in the expanding "high tech" sector of the economy; b) requiring the equivalent of a high school diploma and some mathematical aptitude for admission to the postsecondary training program; c) training women for an occupation in which men predominate; d) leading to a more highly skilled and more highly paid, more secure job than most WIN training in the past; e) costing more, in large part because of its minimum duration of 20 months; and f) the provision of training by an established private corporation (Bell & Howell) through postsecondary institutions that are part of its Education Group.

Research Design

Conceptual Framework

In identifying the variables of interest for the analysis, we relied on the conceptual model of dropout from higher education developed by Tinto (1975). To summarize the Tinto model briefly, family background, individual attributes, and pre-college schooling are presumed to influence the development of commitments to educational as well as other personal goals along with commitments to the postsecondary educational institutions through which such goals might be realized. The goal commitments at entrance to postsecondary educaton affect, in turn, the student's performance in

both the academic (grades and intellectual development) and social (peer-group and faculty interactions) systems of the educational institution. The success of students' performances in the two systems is reflected in the extent of their academic and social integration within the institution which influences subsequent institutional and goal commitments and, ultimately, personal assessments of the importance of those commitments for decisions about whether or not to drop out from the postsecondary educational institution.

In the present study, we specified the variables of importance for each of the conceptions in the Tinto model and modified the model as appropriate for our particular study population. The first set of variable encompassed the conceptions of "family background," "individual attributes," and "pre-college schooling." With respect to "family background," the usual variables of parental income and education were not appropriate because the women in our study were not their parents' dependents but were rather, themselves, heads of households. We did, however, include the welfare status of their parents while they were growing up to determine the importance of a long history of povery for program completion. Sex was a constant since all clients were female. Age (average for our WIN clients was 29) was included because it differentiates our study population from the traditional 18 to 22 year-old college student. Ethnicity was also included since two-thirds of our study population were minority group members. In our data analysis we refer to these variables as 'background characteristics."

"Individual attributes" used in the analysis were academic

ability as measured by scores on the Employment Service's GATB Test, the Stanford reading achievement test, and the Bell & Howell Schools' mathematics test. Since the students were enrolled in a vocational training program, it was assumed that previous employment experience might conceiveably be related to completion. Virtually all of the WIN clients who entered the demonstration training program were single heads of household, so we included data about the number and ages of children they had living at home.

Because the demonstration training program was at the postsecondary level but did not lead to an academic degree, we used the term "pre-training schooling" rather than "pre-college schooling." Variables included type of high school program (academic, general, or vocational), years of prior schooling completed, and high school background of particular relevance for electronics training, namely, courses in science and mathematics.

With respect to "commitments," one important concern was the client's "goal commitment," or desire to pursue what was known to be a long (2 years) and academically challenging training program as opposed to the direct employment option available through the WIN Program. We approached "institutional commitment" in a somewhat unconventional way because this particular WIN demonstration project was limited to a single postsecondary institution at each site; clients had essentially no comparable alternatives available. Hence, the initial placement of the student ("Prep" vs. direct enrollment in the electronic technician program) was construed to be an indicator of initial "institutional commitment" since it reflected the institution's assessment of the student's potential for completing the training.

Indicators of "social integration" into campus life included support networks on campus, participation in extra-curricular organizations, and interaction with non-WIN student peers. Indicators of "academic integration" included willingness to come to campus for studying or additional laboratory work at times other than usual class days and interaction with faculty.

Two sets of variables not in the Tinto model were added to our analysis. The first, the students' subjective assessments of their school experience (in this study, perceived fulfillment of expectations), is suggested by the work of Weidman (in press) on undergraduate career socialization. This may be said to reflect the concept of "intra-personal integration." The second, problems encountered outside of school, is suggested by Weidman and Friedmann (1984) who argue that educational institutions are not encapsulated environments and that performance in school may be affected by the student's ability to cope with problems at home or in other community settings in which they participate. This issue is particularly important for the WIN population because they must be responsible to agencies in the welfare system as well as to their own children and possibly other relatives. These variables may be said to reflect the student's "extra-institutional integration."

Data Analysis

The interviews from which the data were obtained for this paper were conducted in the winter of 1979 (Phase I, 6-8 months following initial program enrollment) and again in the spring of 1981 (Phase II). For a discussion of response rates, see White, et al. (1983).

Comparisons are based on data obtained from the fifty-two

program graduates and the ninety-seven women who dropped out of the training program for whom we have data. This graduate group includes 39 women who were members of the original study population and 13 WIN-sponsored women who were not recruited during the study intake periods, but entered the program later and graduated in February of 1981. The data collected during the initial client selection process and the Phase I interview are not available for these additional thirteen women. Hence, they are not included in all of the tables for this paper. In no instances, however, are the tabled associations between variables changed substantially by the inclusion of the 13 additional clients. Since there are essentially no significant differences in completion rates by site, clients from both sites are combined for the data analysis.

Data analyses are confined to cross-tabulations because most variables are categorical and because the number of program completers is small (most tables show data from fewer than fifty graduates). We chose to provide descriptive information on a range of variables rather than attempting much more restricted multivariate analyses (complex multivariate analyses using all of the variables could not be performed in any event since the number of variables would approach the number of valid cases available).

Comparison of Dropouts and Program Graduates

By May of 1983, only one WIN-sponsored student was still enrolled in the training program. When this woman graduated at the end of 1983, twenty-nine percent of the original group of WIN-sponsored women had completed the training program. While this is a much lower completion rate than that achieved in most WIN programs, it is roughly the same as the completion rate for those

regular Bell & Howell students who began in the remedial or "Prep" term as well as for degree-oriented and performance-graded postsecondary education programs of no more than two academic years' duration beyond high school. This rather high attrition rate at the Bell & Howell schools can be attributed to the academic rigor of the program and the school's rigid standards for terminating students whose attendance and achievement are unsatisfactory.

Most of the women who dropped out of this program did so quite early. Forty-three percent of the dropouts left without completing a single term of the technician program, and an additional twenty-one percent competed only the first term.

Background Characteristics

Age. The distributions of the ages of the dropouts and graduates at the time they first enrolled in the training program are very similar. The mean age for both dropouts and graduates was twenty-nine. Ages of dropouts ranged from eighteen to fifty-four; ages of graduates ranged from nineteen to forty-eight. The differences in the distribution of ages are not statistically significant.

Ethnic Group. Because there was little variation in ethnicity, the differences between dropouts and graduates are not statistically significant. There is a slight tendency (though not significant) for whites and the "other" group to be over-represented among dropouts.

Public Assistance Experience. Graduates were slightly less likely than dropouts (73% vs. 82%, n.s.) to have been enrolled in WIN for less than one year prior to enrollment in the Bell & Howell training program, and slightly more likely than dropouts (65%

vs. 59%, n.s.) to be mandatory WIN participants, suggesting that having older children (and presumably fewer childcare demands) is related to success in the program.

Welfare Status of Client's Parents. Dropouts were slightly more likely than graduates (37% vs. 31%, n.s.) to have come from families which had been on public aid. Neither group, however, contains a large portion of second generation welfare recipients.

Individual Attributes

Academic Qualifications. As part of the process used to select the women to take part in the training, each potential participant was required to take a series of qualification tests, including the GATB test, the Stanford test of reading ability, and a basic arithmetic test that had been designed by Bell & Howell. The only statistically significant difference between graduates and dropouts was found in the scores achieved on the GATB:G ("general aptitude") scale. Table 1 shows that graduates had slightly higher average scores on each test except the GATB:V ("verbal aptitude").

[Table 1 about here]

Prior Work Experience. Ninety-six percent of program graduates and eighty-eight percent of dropouts had held at least one paid job at some time prior to the beginning of the training program. The members of both groups had held an average of five different paid jobs prior to the training program. The members of both groups had held an average of five different paid jobs prior to the training program. Forty-five percent of the graduates and forty-one percent of the dropouts held a paid job during the year prior to the training program. Slightly more graduates than dropouts (22% vs. 16%, n.s.) reported that they had held an

electronics related job.

Graduates were more likely than dropouts (23% vs. 11%, n.s.) to have worked and received public assistance at the same time. This suggests that the graduates are women who were less satisfied than dropouts with the life style afforded solely through public assistance, although it is also true that because their children are older on the average, they are in a better position to engage in work because they tend to have fewer childcare problems.

Family Characteristics. There was virtually no difference in the family size of graduates and dropouts, although a larger proportion of graduates had four or more children (23% vs. 15%, n.s.). The average number of children for members of both groups was two. The children of graduates were also slightly older at the time the program began than the children of women who dropped out of the program (9.0 years vs. 8.6 years, n.s.). During the time that the two groups were enrolled in the training, three of the graduates (7%) and four of the dropouts (5%) reported that they had given birth to another child.

Pre-training Education

Years of Previous Education Completed. At the time of their selection for the training program, the average number of years of schooling completed by those who had completed the program was 11.6 years, while for dropouts the average was 11.5 years.

Type of High School Program. WIN graduates were more likely than dropouts (84% vs. 66%, n.s.) to have been enrolled in "general" high school programs, and less likely than dropouts to have been enrolled in "academic" (8% vs. 12%, n.s.) or "vocational" programs (8% vs. 22%, n.s.). Since only 11 percent of the total

study population had been in an academic high school program, it is difficult to make any generalizations about this group. It may be that those enrolled in vocational programs were students who had shown a greater job orientation. Thus, one interpretation of the results would be that the dropouts from the training program who had been in high school vocational programs are those who prefer working over being in an academic or training setting. It is also not clear whether students enrolled in "general" programs obtain a more rigorous high school education, especially more math and science classes, than those in "vocational" programs.

Coursework in Science and Mathematics. In the Phase II interview, all respondents were asked whether they had completed one or more courses in four specified areas of advanced math and of the natural sciences. Table 2 shows the results for graduates and dropouts. It is interesting to note that the biggest differences are not in algebra and physics, which might be assumed to be most directly relevant to electronics training, but rather in geometry (the only statistically significant difference) and chemistry. This suggests that courses in the more analytical math and science areas provide useful skills for completion of this sort of training. On the average, graduates had taken slightly more courses in these eight areas (2.2 vs. 1.9, n.s.), but fully a quarter of both the graduate and dropouts had taken no courses in any of the areas.

[Table 2 about here]

Commitments

Goal Commitment. One factor which was strongly associated with successful completion of the training program was the match between a client's preference for training or immediate

employment and her enrollment in the training program. Graduates were much less likely than dropouts (5% vs. 24%, p=.02) to say that they would have preferred job placement to training at the time they originally enrolled. The most common reason given by these women for enrolling in training, despite their preference for obtaining employment, was that they couldn't get a job or that WIN had not been able to find a job for them.

While nearly every woman missed some classes, the average number of classes missed between the start of the training program and the first interview was virtually the same, sixteen for graduates and eighteen for dropouts. The most common reasons given for absences were the respondent's health, transportation, and childcare problems.

Institutional Commitment. The staff of the training institutions used the arithmetic test scores to determine whether a woman qualifying for the training had first to complete a remedial term (referred to as "Prep") or could be admitted directly to the first term of the technician training program. A student was assigned directly to the technician training program if she scored above eighty percent on the arithmetic test. If she scored lower on the arithmetic test but had at least a tenth grade reading level she was enrolled in the "Prep" training. Thirty-seven percent of the women in the demonstration program were admitted directly into the technician program and the remaining sixty-three percent began with the remedial term. The initial assignment of students was significantly related to program completion. While forty-four percent of those who graduated started in the "Prep" course, sixty-six percent of the dropouts (p=.04) entered training in the

"Prep" course.

Social Integration

Support Networks. The school experiences explored in the Phase II interview included membership in in-school support networks. Dropouts and graduates were about equally likely to report that the other WIN women formed a support group and to feel that they were part of that group. Graduates and dropouts were also about equal in the frequency with which they went to the special school counselor for the WIN students for advice and were equally likely to rate the counselors favorably.

Graduates were slightly more likely than dropouts to have laboratory partners who were not other WIN students and to have a larger portion of their friends at school who were not WIN students. When asked to indicate the importance of various sources of support (Table 3), more graduates than dropouts ranked each source as very important except for the school faculty and administration. The difference in the proportions of graduates and dropouts listing non-WIN students as very important is statistically significant.

[Table 3 about here]

Participation in Extra-Curricular Activities. Graduates were more likely than dropouts to see other non-WIN students (66% vs. 48%, p=.05) at social activities outside of school. Graduates were also significantly more likely than dropouts (44% vs. 16%, p=.001) to join a school-sponsored club or student government, although this may simply reflect the graduates' longer time in the training program.

Academic Integration

Studying. On the average, dropouts reported studying

only slightly more hours per week than graduates (16 vs. 14.5, n.s.). Graduates were, however, significantly more likely than dropouts (91% vs. 54%, p=.00) to have come in to the school on their own time to do extra laboratory work or studying.

Intra-personal Integration

Fulfillment of Expectations. Some impressions of the program which show differences between those who eventually graduated and those who did not were gathered in the Phase I interview which took place before more than a handful of individuals had dropped out of the program. Clients were asked whether certain aspects of the school experience met their expectations for the training program. Graduates, in contrast to dropouts, found new WIN students to be somewhat more friendly than expected (53% vs. 40%, n.s.), and teachers to be significantly more helpful than expected (60% vs. 39%, p=.003). Dropouts were more likely than graduates to find that the program demanded more time than expected (59% vs. 39%, n.s.) and that coursework was more difficult than expected (29% vs. 22%, n.s.).

Extra-institutional Integration

Effect on Children. Graduates were slightly more likely than dropouts (72% vs. 63%, n.s.) to feel that their enrollment in the training program was having a positive effect on their children, such as the child beginning to study more or returning to school; or becoming proud of and showing more respect to the mother. The negative effect most often listed by both dropouts and graduates was that the mother had less time for her children.

Problems Encountered. In the Phase II interview, the graduates and dropouts were asked to indicate whether each of a

series of potential problems for staying in the program had actually posed a serious problem for them. As shown in Table 4, dropouts were significantly more likely to respond that transportation, their own health, and the difficulty of the work required were problems for them. Interestingly, the graduates were significantly more likely to respond that personal finances had been a serious problem for them. This was probably a function of their longer enrollment in the training program and greater dependence on additional training allowances necessary to cover costs of transportation, child care, and school supplies.

[Table 4 about here]

Other items in the interviews elicited more detailed information on transportation, but they shed little light on the reasons dropouts had seen transportation as such a problem. The dropouts did not differ significantly from the graduates in the distance, time, cost, or means of commuting from home to the training site.

More detailed information was also collected on the respondent's health. Nearly the same proportion of graduates and dropouts reported that an illness had caused them to miss a class. Dropouts who were ill, however, reported twice as many instances of illness (an average of 3.6) as did graduates (an average of 2.0). Dropouts were also more likely to report illnesses which required surgery or hospitalization.

Discussion

The findings from the present research suggest that conceptual models developed from literature on traditional, residential college students (Tinto, 1975; Pantages and Creedon,

1978) can be appropriate for the study of non-traditional, commuter postsecondary students enrolled in programs that do not lead to an academic degree. They highlight the importance for program completion of students' goal commitments and their integration into both the academic and non-academic sectors of postsecondary educational institutions. The importance of being alert to the possibility that educational institutions are not encapsulated environments is also suggested by the findings that intra-personal and extra-institutional integration are related to program completion.

Specifically, while program completion was not related to background characteristics such as ethnicity or poverty, it was related to the WIN client's academic aptitude (GATB:G test score). Graduates had a significantly higher GATB:G score than dropouts, which suggests that this Employment Service aptitude test is a potentially effective screening instrument for female WIN clients entering similar training programs in the electronics field. Hence, GATB:G scores can be used with some confidence as one criterion for determining which WIN clients should be referred to this type of training program and which clients should be referred to other trainng or employment opportunities. The originally determined GATB:G score of 90 for training referral seems reasonable since the only lower score attained by a graduate was 89. A GATB:G score closer to 100 would be a better criterion for referral, but that would reduce even more the already small proportion of the WIN population who might qualify for such rigorous training.

Graduates tended to have a different high school background than dropouts. While roughly equal proportions of the small number

of program participants who were in academic high school programs graduated from and dropped out of the training, clients who had been in general high school programs were more likely to graduate those who had been enrolled in vocational curricula. Graduates were significantly more likely than dropouts to have taken geometry and chemistry courses in high school. This suggests that high school curriculum rather than simply attainment of a diploma or GED would serve as an effective selection criterion.

Initial assignment to the "Prep" semester seemed to diminish the commitment of these WIN women to the training program. The significant difference in the rate of completion of the program between those who were admitted directly into the technician training program and those required to take the remedial "Prep" term suggests that the remedial term be examined for ways to improve the preparation given for the main training program (and, in fact, the training institutions have changed the structure and content of this term greatly since the demonstraton group first enrolled) as well building stronger commitment to the institution.

The significance of goal commitment for program completion is shown by the finding that dropouts tended to be more "job-oriented" than graduates and suggests two more aspects of the "Prep" program which may have contributed to the attrition rate. First, being required to complete this term added fifteen weeks to the minimum time required to complete the training, which meant that the payoff of this training in the labor market was at least two years away from initial enrollment. Second, the "Prep" term is the least "job-like" term. In one of the settings it involved no benchwork, and it was reported that in neither setting was there

such use or discussion of the everyday tools and activities of an electronic technician. It could be that both of these factors dramatically decreased the attractiveness of the training program for a woman who was more work- than school-oriented.

Individuals' preferences for training over immediate placement in a job would also seem to be an effective criterion for screening women for admission to this program. The effectiveness would be increased to the degree that WIN clients were presented with alternative immediate placement opportunities because this would remove the incentive for hiding one's true preferences.

The graduates reported more contact with the non-WIN students at the training institution. They were more likely to join a club or student government, more likely to see non-WIN students outside of school, and more likely to identify non-WIN students as an important source of support in completing the program. These differences may simply reflect the differences in time of exposure to the program and the non-WIN students. But, possibly, this suggests that graduates were either the women who possessed social skills and values which were similar to those of the non-WIN students and this fostered interaction, or that the graduates were women who, when brought into contact with the non-WIN students by course requirements, quickly assimilated their orientations.

Graduates reflected better integration into the life of the training institution than dropouts. The findings for these women about the importance of support by and interaction with non-WIN school peers as opposed to interaction with faculty is congruent with the work of Bean (in press), but in contrast to Pascarella (1980) and Weidman (1979) who emphasize the pre-eminence of faculty

in student socialization. Perhaps there was too great a socio-economic and academic gap between the white male faculty accustomed to teaching white male students and the predominantly minority female WIN students for effective interaction to occur. While faculty were perceived as being more helpful than expected, willingness of WIN women to do extra classwork at the training institution seemed to be a more important indicator of academic integration among these non-traditional students.

The remainder of the findings support a portrait of graduates having three characteristics which would be difficult to measure during the screening process but whose use (if appropriate indicators could be devised) might further reduce the attrition rate. One is the motivation to complete the program and to leave the welfare system. The importance of this factor is suggested by the trends for graduates to have worked while receiving public assistance; their perception of and, implicitly, capacity to overcome greater financial difficulties while on public assistance; and their willingness to come to the school to work or study on their own time.

A second element is a positive early impression of the training and its effects on their families. At the time of the first interview, graduates found the faculty to be much more helpful than they had expected, and did not feel that the difficulty of the coursework was much of a problem for them. They were also significantly more likely to have noticed that enrollment was having a favorable effect on their children.

Finally, graduates among this very non-traditional postsecondary student group were able to cope better with the

demands of life outside of the training program than were dropouts. Graduates had more supportive friends and relatives, fewer problems with their own children, were healthier, and managed to overcome problems that they encountered with the welfare system, especially late checks. This finding provides strong support for our assertion that extra-institutional factors need to be considered in the study of attrition, especially where independent adult student populations are concerned.

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June 7, 1984

TABLE I

AVERAGE SCORES ON QUALIFICATION TESTS[a]

Tests	Graduates	Dropouts
GATB: G	106.7	103.8[b]
GATB: V	105.9	107.2
GATB: N	107.6	105.9
Reading (Grade Equivalent)	10.1	9.6
Arithmetic (Percent Correct)	54.8	50.0
	(N=37)	(N=93)

[a]Includes only originally selected program participants.

[b]G-Square=66.8; P=.01.

TABLE 2

PREVIOUS COURSEWORK IN MATHEMATICS AND SCIENCE[a]
(In Percentages)

Percent of Women Who Prior to the Start of this Training Program had Completed at Least One Course in:	Graduates	Dropouts
Math		
Algebra	62	58
Trigonometry	12	12
Geometry	50	29[b]
Calculus	3	5
	(N=32)	(N=79)
Science		
Biology	77	78
Chemistry	29	16
Physics	18	21
Geology	13	12
	(N=31)	(N=79)

[a]Table includes only originally selected program participants.

[b]Chi-Square=4.4; p=.04.

TABLE

IMPORTANCE OF SOURCES OF SUPPORT IN H
(In Perc

Support	Very Important
Family.	69
Friends Outside School.	29
WIN Students.	46
Non-WIN Students[a]	42
WIN Student Counselor	65
School Faculty and Administration	47

[a]Chi-Square=8.7; p=.01.

3

ELPING RESPONDENTS COMPLETE TRAINING
entages)

Graduates		Dropouts		
Somewhat Important	Not Important At All	Very Important	Somewhat Important	Not Important At All
27	4	54	34	11
40	31	22	34	44
36	18	36	44	20
40	18	19	47	34
21	14	57	33	10
42	11	57	31	12
(N=45)			(N=79)	

TABLE

PROBLEMS ENCOUNTERED IN
(In Perc

Problems	Serious Problem
Transportation[a]	9
Clothing	13
Child Care	9
Respondent's Health[a]	7
Health of Child, Other Family Members	8
Difficulty of Coursework[a]	0
Personal Finances[a]	41
Emotion Problems	11

[a]Chi-Square, p=.05.

4

STAYING IN THE PROGRAM
entages)

Graduates		Dropouts		
Somewhat of a Problem	No Problem	Serious Problem	Somewhat of a Problem	No Problem
49	42	21	30	49
16	71	9	20	71
22	69	13	20	67
9	84	13	23	64
22	70	12	22	66
54	46	18	43	39
34	25	20	28	52
27	62	16	21	63
(N=52)			(N=97)	